

FLOOD HAZARD REDUCTION

§ 151.25 GENERAL STANDARDS.

In all areas of special flood hazard the following provisions are required:

(A) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure;

(B) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. For the purpose of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement in accordance with the *Regulations for Mobile Homes and Modular Housing* adopted by the Commissioner of Insurance pursuant to G.S. § 143.143.15.

(C) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

(D) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages;

(E) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

(F) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

(G) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

(H) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and

(I) Any alteration, repair, reconstruction, or improvements to a structure which is in compliance with the provisions of this chapter, shall meet the requirements of new construction as contained in this chapter.

(J) Non-conforming buildings or uses may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this chapter. Provided, however nothing in this chapter shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this chapter and located totally or partially within the Floodway Zone, provided that the bulk of the building or structure below base flood elevation in the Floodway Zone is not increased and provided that such repair, reconstruction, or replacement meets all of the other requirements of this chapter.

(`92 Code, § 91.25) (Ord. passed 8-6-90) Penalty, see § 151.99

§ 151.26 SPECIFIC STANDARDS.

In all areas of special flood hazard where base flood elevation data has been provided, as set forth in § 151.07 or § 151.42(J), the following provisions are required:

(A) *Residential construction.* New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor, including basement, elevated no lower than zero feet above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided.

(B) *Non-residential construction.* New construction or substantial improvement of any commercial, industrial, or non-residential structure shall have the lowest floor, including basement, elevated no lower than zero feet above the level of the base flood elevation. Structures located in A-zones may be flood-proofed in lieu of elevation provided that all areas of the structure below the required elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in § 151.41(E).

(C) *Manufactured homes.*

(1) Manufactured homes that are placed or substantially improved within Zones A1-A30, AH, and AE on sites outside a manufactured home park or subdivision; in a new manufactured home park or subdivision; in an expansion to an existing manufactured home park or subdivision; or in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated no lower than zero feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(2) Manufactured homes that are to be placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-A30, AH, and AE that are not subject to the provisions of division (C)(1) above must be elevated so that either the lowest floor of the manufactured home is elevated no lower than zero feet above the base flood elevation, or the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement.

(3) An evacuation plan must be developed for evacuation of all residents of a manufactured home park or subdivisions located within flood prone areas and filed with and approved by the county or local Emergency Management Coordinator.

(D) *Recreational vehicles.* Recreation vehicles placed on sites within Zones A1-30, AH, or AE shall either be on site for fewer than 180 consecutive days, be fully licensed and ready for highway use, or meet the requirements of §§ 151.25, 151.26(C) and 151.41. A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions.

(E) *Elevated buildings.* New construction or substantial improvements of related buildings that include fully enclosed areas that are usable solely for the parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to preclude finished living space, be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

(1) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:

(a) Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

(b) The bottom of all openings shall be no higher than one foot above grade; and,

(c) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided the permit the automatic flow of floodwaters in both directions.

(2) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).

(3) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas.

(F) *Floodways.* Located within areas of special flood hazard established in § 151.07, are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris and potential projectiles and has erosion potential. The following provisions shall apply within such areas:

(1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the local administrator.

(2) If division (F)(1) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this subchapter.

(3) No manufactured homes shall be permitted, except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of § 151.25(B) and the elevation standards of division (C) above are met.

(`92 Code, § 91.26) (Ord. passed 8-6-90) Penalty, see § 151.99

§ 151.27 STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODWAYS.

Located within the areas of special flood hazard established in § 151.07, are small streams where no base flood data has been provided or where no floodways have been identified. The following provisions apply within such areas:

(A) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of the stream bank equal to times the width of the stream at the top of bank or 20 feet each side from top of bank, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(B) If division (A) above is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard ordinance provisions of this subchapter and shall be elevated or flood-proofed in accordance with elevations established in accordance with § 151.42(J). When base flood elevation data is not available from a federal, state, or other source, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade.

(`92 Code, § 91.27) (Ord. passed 8-6-90) Penalty, see § 151.99

§ 151.28 STANDARDS FOR SUBDIVISION PROPOSALS.

(A) All subdivision proposals shall be consistent with the need to minimize flood damage;

(B) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;

(C) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards; and

(D) Base flood elevation data shall be provided for subdivision proposals and other proposed development which is greater than the lesser of 50 lots or five acres.

(`92 Code, § 91.28) (Ord. passed 8-6-90) Penalty, see § 151.99

§ 151.29 STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONES).

(A) Located within the areas of special flood hazard established in § 151.07, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate.

(B) The following provisions shall apply within such areas:

(1) All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade.

(2) All new construction and substantial improvements of non-residential structures shall:

(a) Have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade; or

(b) Be completely flood-proofed together with attendant utility and sanitary facilities to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

(`92 Code, § 91.29) (Ord. passed 8-6-90) Penalty, see § 151.99